

CLAIMS:

What is claimed is:

1. A self-contained sampling/testing device comprising:
 - a. a sampler for collecting target material;
 - b. a signal generator comprising a dye which binds to said target material to signal the presence of said target material.
2. The device of claim 1, further comprising a sampler washer comprising a wash solution.
3. The device of claim 1, further comprising an absorbent material, wherein said sampler comprises a porous sample collection pad, and said absorbent material, said sampler, and said sampler washer are configured and arranged such that said sample collection pad can be disposed between said absorbent material and said sampler washer so that said wash solution separates dye bound to said target material immobilized on said sample collection pad from unbound dye.
4. The device of claim 1 wherein said sampler comprises a porous sample collection pad for collecting said target material, wherein said dye and said wash solution are contained in a reagent tray housing capable of being contacted by said sampler to impart said dye and said wash solution across said target material contained on said sampler.
5. The device of claim 3 or 4 wherein said dye and said wash solution are contained in a plurality of reservoirs, wherein said reservoirs are serially contacted by said sampler to first expose said target material to said dye and then to wash unbound dye away from bound dye.

6. The device of claim 1, 3, or 4, further comprising a wetting agent for moistening said sample collection pad in advance of collecting said target material.

7. The device of claim 6 wherein said wetting agent is identical to said wash solution.

8. The device of claim 3, wherein said sampler is hollow and wherein said absorbent material is disposed within said sampler to facilitate transport of said dye and said wash solution across said target material or said wash solution is disposed within said sampler.

9. The device of claim 8, further comprising a reagent housing comprising an absorbent material, wherein one of said absorbent materials is saturated with said wash solution, and the other of said absorbent materials is unsaturated, wherein unbound dye from a sampler collection surface disposed there between is washed by the flow of said wash solution from said saturated absorbent material to unsaturated absorbent material.

10. The device of claim 9, wherein said dye is transported by said wash solution to said target material to effect said binding.

11. The device of claim 10, wherein said dye is separated from a said absorbent material by at least one membrane that is rupturable during the course of a test.

12. The device of claim 9, wherein said reagent housing also comprises a cap for protecting said collection pad surface from contamination when not in use.

13. The device of claim 3 or 4, wherein said dye is a protein binding dye.

14. The device of claim 13, wherein said dye is Ponceau-S.

15. The device of claim 14, wherein Ponceau-S is used at a final concentration of about 0.1-1% (w/v) in dilute acetic acid solution.

16. The device of claim 13, wherein said dye both precipitates and stains said protein.

17. The device of claim 1, 3, or 4, wherein said dye is dry until contacted by said sampler.

18. The device of claim 1, further comprising a neutralizing agent to neutralize any compounds in the sample that might interfere with the binding of said dye to said target material.

19. The device of claim 18, wherein said neutralizing agent is selected from the group consisting of sodium thiosulfate, $MgCl_2$, sodium dodecyl sulfate, tergitol, Triton X-100, and Tween 20.

20. The device of claim 17, wherein said dye is a frequency shift dye.

21. The device of claim 20, wherein said dye is a colloidal dye.

22. The device of claim 21, wherein said dye is a colloidal Coomassie® Brilliant Blue dye.

23. The device of claim 1 further comprising a reading portion.

24. The device of claim 22, wherein said sampler is contained within a lower housing providing protection from pre-testing contamination for said sampler, said device further

comprising an upper housing, wherein said upper housing and said lower housing sealably engage, and said sampler is attached to said upper housing.

25. The device of claim 1, wherein said sampler further comprises a hollow shaft and an absorbent tip;

a chamber housing said combined sample wash signal generator, said chamber further comprising a breakable shaft which upon breakage exposes an orifice through which said combined sample wash signal generator may flow, wherein said chamber is adjoined to a slidably engageable fitting, said fitting having an inner member and an outer member between which a lower housing may slidably engage, wherein said combined sample wash signal generator comprises a frequency shift dye;

a lower housing read portion below said sampler to contain the combined sample wash signal generator, wherein said read portion comprises walls allowing detection of a frequency shift of said dye.

26. The device of claim 1, wherein said device comprises a surface which binds said target material prior to contact of said target material with said dye.

27. The device of claim 26, wherein said target material is protein.

28. The device of claim 1, wherein said sampler contains an absorbent pad at the surface of which is positioned a membrane to which a dye is attached either covalently or non covalently.

29. The device of claim 1, wherein said sampler contains an absorbent pad which has a dye attached directly to its surface either covalently or non covalently.

30. The device of claim 28 or 29, wherein a wetting/neutralizing solution is contained within a reagent housing containing an absorbent material.

31. The device of claim 28 or 29, wherein said sampler contains an absorbent material which is pre moistened with wetting/neutralizing solution.

32. The device of claim 28 or 29, wherein said sampler contains a breakable vial or rupturable compartment containing wetting/neutralizing solution.

33. The device of claims 28-32 wherein said dye is a frequency shift dye of the protein error family.

34. The device of claims 28-32, wherein said dye is bromophenol blue.

35. The device of claims 28-32, wherein said wetting/neutralizing solution is selected from the group consisting of sodium thiosulfate, MgCl_2 , sodium dodecyl sulfate, tergitol, Triton X-100, and Tween 20.

36. A self-contained sampling/testing device comprising:

(a) a sampler for collecting biological target material; and

(b) a signal generator comprising a frequency shift dye of the protein error family, said dye being capable of binding to said biological target material and producing a color change upon binding to said target material wherein unbound frequency shift dye need not be separated from biological target bound frequency shift dye in order to detect the presence of target material.

37. The device of claim 36, further comprising an absorbent material.

38. The device of claim 36, further comprising a wetting agent.

39. The device of claim 36, wherein said dye is bromophenol blue.

40. The device of claim 36, further comprising a wetting solution, said solution comprising a neutralizing agent selected from the group consisting of sodium thiosulfate, MgCl_2 , sodium dodecyl sulfate, tergitol, Triton X-100, and Tween 20.